U.S. General Services Administration (GSA)
Federal Acquisition Service (FAS)
Office of Information Technology Category (ITC)

For
Transition Engineering Assistance (TEA) Support Services for the National Weather Service (NWS)

1. PERFORMANCE WORK STATEMENT

1.1 OVERVIEW

The General Services Administration (GSA) Federal Acquisition Service (FAS) Office of Information Technology Category (ITC) Office of Enterprise Technology Solutions (ETS) develops and manages programs that meet the current and future telecommunications requirements of federal agencies and departments. In addition, the ETS delivers administrative and technical support for services and solutions that are both efficient and cost-effective.

The Office of Enterprise Technology Solutions accomplishes this by:
- Effectively leveraging competition to provide the best available telecommunications services and solutions at the best overall prices in the marketplace.
- Providing a customer focused, highly responsive, and fully integrated approach to helping Federal agencies.

One of the government's top priorities for telecommunications and infrastructure modernization is planning and expediting the transition of services from the expiring Networx, WITS 3, and the Local Service Agreements (LSAs) contracts to the Enterprise Infrastructure Solutions (EIS) contract.

ETS Programs are available to federal departments and agencies that meet the eligibility criteria contained in the GSA Directive ADM 4800.2H (as amended) —Eligibility to Use GSA Sources of Supply and Services, dated June 2013. Telecommunications services include data, voice, and video across a variety of transmission media such as radio, wire, cable, satellite, and wireless. Security requirements are also addressed.

ETS Programs currently provides the following technology contracts:
- Networx
  Two broadly scoped acquisitions providing comprehensive service suites of telecommunication/IT services.
- CONNECTIONS II (CNX II)
  One-stop shop for equipment, support services, or customized solutions for any office building, campus, or base environment.
- Enterprise Mobility
  Provides secure wireless services such as FSSI Wireless (FSSI-W), mobile devices and applications.
- Enterprise Infrastructure Solutions (EIS)
  A comprehensive solution-based vehicle to address all aspects of federal agency IT telecommunications, and infrastructure requirements. It is replacing GSA's current Networx Universal and Enterprise contracts as well as GSA Regional Local Service Agreements for government telecommunications and infrastructure solutions.
- The full range of commercial satellite services and end-to-end solutions including satellite bandwidth, mobile satellite services, engineering support, professional services, and equipment. Contracts support the Future COMSATCOM Services Acquisition (FCSA) which was created in partnership with the Department of Defense to create a common marketplace for the entire Federal Government to procure its commercial SATCOM services. It encompasses COMSATCOM Specific SINs on Schedule 70 and two multiple-award ID/IQ contract vehicles, and Custom SATCOM Solutions (CS3).
- Federal Relay
  Telecommunications access for federal employees who are deaf, hard of hearing or speech disabled.
- Washington Interagency Telecommunications System (WITS 3)
  A variety of telecom services available to all the federal agencies in Washington DC and surrounding Maryland and Virginia counties. WITS 3 services may be expanded to certain communities of interest outside these geographical boundaries.

- Local Service Agreements (LSAs)
  Local Telecommunications Services provide pre-competed Indefinite Delivery/Indefinite Quantity (IDIQ) telecommunications and network services, such as Voice over Internet Protocol (VoIP), local and international telephone service.

1.1.1 SUMMARY DESCRIPTION OF THE REQUIREMENT

GSA will assist agencies that procure telecommunications services from the Enterprise Infrastructure Solutions (EIS) contract by providing technical Transition Engineering Assistance. This order will service NOAA National Weather Service directly. The Transition Engineering Assistance (TEA) scope is primarily to work directly with the assigned agencies to securely transition their enterprise networks, voice infrastructures, Internet service providers, extranet connectivity, managed network and security services, and their cloud service provider connectivity to the awarded EIS solution from the legacy and expiring GSA Networx, LSAs and WITS3 contracts.

During the process the contractor shall review the agency's current architecture and inventory and offer expert guidance to the agency during their transition to the proposed EIS architecture. The TEA contractor is required to recommend opportunities for infrastructure and service modernization to the stakeholders based on their review of the current and planned architectures as well. See section E.1.5.9. The TEA contractors shall work directly with the NWS, awarded EIS contractor(s), and GSA stakeholders to ensure the agency EIS transition goals are achieved in a secure, best practice focused, and where possible modernized method.

The specific requirements associated with this document consist of mandatory deliverables identified in this PWS. All deliverables and work products shall become the express property of the government. None of the functions to be performed are inherently governmental as defined in FAR 7.5.

1.2 SPECIFIC REQUIREMENTS

The Transition Engineering Assistance (TEA) scope of this order is to work directly with the National Weather Service (NWS) in support of their Managed Network, Data, Voice, Toll Free, Web and Audio Conferencing Services, and Managed Trusted Internet Connections Service transitions to EIS.

The NWS is a line office within the Department of Commerce (DOC) National Oceanic and Atmospheric Administration (NOAA). The mission of the NWS is to provide weather, water, and climate data, forecasts, and warnings for the protection of life and property and enhancement of the national economy. The vision of the NWS is to build a weather-ready nation: a society prepared for and responding to weather-dependent events. The NWS headquarters is located in Silver Spring, Maryland, with regional headquarters located in Kansas City, Missouri; Bohemia, New York; Fort Worth, Texas; Salt Lake City, Utah; Anchorage, Alaska; and Honolulu, Hawaii. With some 5,000 employees in 122 weather forecast offices, 13 river forecast centers, 9 national centers, 21 Center Weather Service Units (CWSU) and many other support offices around the country, NWS provides a national infrastructure to gather and process data worldwide. Each year, NWS collects some 76 billion observations and issues approximately 1.5 million forecasts and 50,000 warnings. NWS is actively working internationally through the World Meteorological Organization (WMO), nationally partnering with participants in the public/private weather enterprise, and on a more local level partnering with emergency management and academia.

More general information about the NWS can be found on the Internet at www.weather.gov.

The NWS seeks to successfully transition all legacy telecommunications and information technology services and associated equipment from the expiring Networx, Washington Interagency Telecommunications System (WITS 3), and Local Service Agreements (LSA) contracts, to the GSA's EIS contract before the legacy contracts expire. During the transition and to the extent technically possible, NWS intends to upgrade the legacy technologies, e.g., Time Division Multiplexing (TDM) circuits with

Internet Protocol (IP)-based technologies. NWS intends to modernize services where possible and transition some services as like-for-like when modernization solutions are not readily available. NWS will use the EIS contract to modernize the network and IT infrastructure in compliance with the Modernizing Government Technology Act.

The NWS EIS transition is being led by the NWS Office of Dissemination, which operates and manages NWS information technology (IT) systems infrastructure and services through the NWS National Centers for Environmental Prediction (NCEP) Central Operations (NCO). The NWS EIS transition team will be composed of individuals from the Office of Dissemination and NCO. The TEA support contractor will directly support the NWS EIS transition team.

The NWS vision for the future includes a long-term goal for a single unified solution for enterprise communications. This section describes some of the modernization and innovative technologies of interest to the agency. NWS modernization activities may include Use Case Pilots and or incremental implementation of transformative technologies as referenced in the Office of Management and Budget (OMB) Memorandum M-17-26, Reducing Burden for Federal Agencies by Rescinding and Modifying OMB Memoranda (e.g., Cloud Services, SD-WAN, TIC 3.0, and remote users).

NWS's primary objective in transitioning to EIS is to maintain reliable and cost-effective telecommunications services while minimizing the impact to its customers and services. Additionally, the NWS is looking to the awarded EIS contractor (AT&T) to assist with reducing capital and operating expenditures associated with transitioning to the EIS contract, and in future service deliveries. Further, within the NOAA EIS solicitation the providers were encouraged to propose solutions and deliver services that enable NWS to maintain a relatively flat or declining spend rates for the task order's base year and each option year.

The NOAA EIS task order, which included the NWS requirements, has been awarded to AT&T. Currently the NWS services that are to transition are managed by Verizon and CenturyLink/Lumen. NWS has requested and AT&T has proposed areas for modernization during the transition. The TEA contractor(s) shall assist NWS with their review and assistance of the awarded EIS services while providing expert level advice to NWS to assist with their transition and modernization planning. The expert level review and assistance provided shall be delivered through interactions with the NWS EIS transition team, a review of their RFPs/RFQs and awarded AT&T proposals, and a set of deliverables as listed in this PWS.

GSA requires the contractor to have the capability to successfully ramp up and have available qualified, expert staff that is fully knowledgeable of government and specifically GSA telecommunications programs at the time of the TO award.

The contractor shall not perform inherently governmental functions (IGF) or personal services.

1.2.1 - TRANSITION ENGINEERING ASSISTANCE (TEA) SUPPORT SERVICES (Labor Hours)

The contractor shall perform an assessment and inventory analysis of the National Weather Service's existing telecommunication systems, network topology, and services for each location or service environment. The contractor shall perform a review and assessment of the National Weather Service's EIS solicitation and the awarded EIS solution proposed by the EIS contractor (AT&T). The reviews of the assessments shall be documented and shared with GSA and with the NWS EIS transition team leadership.

The goal of the technical review and assessment requirements are to assist the National Weather Service's EIS transition team with expert level technical guidance and best practices as the agency transition team moves forward with implementing the awarded EIS solution(s). As the tasks mature, the NWS team will require hands on network engineering assistance with the redesign and circuit turn-up processes. GSA is offering the technical engineering assistance services under this award directly to the

National Weather Service to assist them with their awarded EIS service transitions while offering advice to NWS on areas to modernize within the accepted quote from the EIS awarded contractor(s).

The services and related requirements that may comprise the bulk of the transition inventory include but are not limited to:

1) Network architecture
2) Wide Area Network/Local Area Network (WAN/LAN)
3) Voice systems topology & configuration
4) Audio/video/web conferencing
5) Call center operations
6) Cloud Service Provider Connections
7) Wireless and mobile services and devices
8) Site locations inventory and categorization
9) Equipment and devices to be replaced or removed (if applicable)
10) Construction that is integral to and not easily severable from the service it enables
11) Optional modernization goals requested in the fair opportunity solicitations and accepted EIS contractor quotes
12) Technology Transformations: Bandwidth Upgrades, Retiring TDM, Moving to Ethernet, SD-WAN, TIC 3.0, Etc.

NWS is currently upgrading the local access infrastructure (the "last mile" access) at all NWS field offices to 1 Gbps or 10 Gbps Ethernet access, and implementing a second, completely diverse Ethernet access at many of the locations at approved budget levels. Beyond FY2018, NWS plans to investigate upgrading TDM services at other site locations (e.g., airports) where sensors and monitoring devices are deployed using alternate technology– e.g., Ethernet or wireless – depending on the application and service availability of Ethernet services at the particular site.

NWS EIS Transition Objectives
(from Section C.5.2 Project Objectives of the NOAA EIS RFP)

The objectives of the NWS Network Transition and Evolution Project are as follows:
1) Transition current services to the GSA EIS contract: Transition all services from the current Networx, regional, local, and other expiring GSA contracts to EIS in a well-planned, phased, and non-disruptive manner. Complete the transition prior to the expiration of the legacy contracts. NWS's network that is application aware and serves as the basis for additional transformation to enable in-person and remote collaboration with national and international partners and be a fully integrated field Infrastructure delivering consistent products and services.
2) Increase cost-effectiveness and scalability of services: Take advantage of advances in technology and decreases in unit costs to deliver more bandwidth at lower cost immediately and over the life of the contract by designing in expandability.
3) Reduce the Total Cost of Ownership: This would include not only cost-effective data and voice transport, but also a simplified vendor structure, and a simplified operational model where NWS partners closely with vendor(s) in operations and support of the network. Cost of ownership must also take into account those costs associated with the transition itself, taking into consideration the most expensive circuits before, during, and after parallel operations.
4) Reduce dependence on Time Division Multiplexing (TDM) technology: Prepare for TDM phase-out by replacing TDM services where available during transition with minimal disruption to NWS operations, and in accordance with NWS' budget.
5) Improve network performance and manageability: Procure high-quality services through EIS that meet or exceed NWS' needs for network performance and establish meaningful relationships to facilitate expectations of Service Level Agreement (SLA) management and network objectives throughout the life of the contract.

6) Increase resiliency: Continue to evolve the network to provide increased resiliency to all sites to minimize the risk of network outages during critical weather events and to maintain an acceptable level of service in the face of degradations, faults, and challenges to normal operations.
7) Increase operational transparency: Improve NWS' planning and operational efficiency by increasing transparency into the provider's operational information for all services delivered.
8) Incorporate new technologies: Develop and execute a Strategic Plan that evolves the NWS networks to simplify operations while enabling emerging technologies per NWS' network vision, emerging technologies will be implemented to enable network virtualization and automation thereby improving network performance. When prudent, incorporate Software Defined Networking (SDN and SD-WAN) and Network Function Virtualization to improve the ability of the network infrastructure to support the NWS mission, especially during times of critical need.

NWS' Planned EIS Transition Phases

A conceptual approach for meeting NWS' transition and transformation objectives are shown in the figure below. Phases of Transition and Transformation Activities. Activities are defined in the three individual but overlapping phases below:

Phase 1 will begin with the award of the TO and will conclude when all existing services have been retired or transitioned. This phase primarily will reflect transition of services on a like-for-like basis using the current high-level network architecture shown in Section C.7, possibly with modest technology and service migrations such as additional TDM replacement or inclusion of optional services at the discretion of NWS. The bulk of the requirements specified in this TO address the Phase 1 imperative to complete transition and establish a new operational baseline for the NWS networks.

Phase 2 will follow the initial transition to EIS. This phase will focus on optimizing and improving network operations to move towards a more application and collaboration-centric network, i.e., a network that allows more resilient, higher-bandwidth, on-demand sharing of information to support collaboration across the NWS workforce and locations, and between NWS and its partner organizations. This phase may include further consolidation of networks and services, increased use of converged and managed services (e.g., Unified Communications), adoption of improved bandwidth management capabilities, virtualization of select functions performed at field locations, implementation of new network management paradigms, and the initial deployment of SDN/NFV-based services into the network.

Phase 3 will leverage ongoing developments in technology and services to evolve NWS' network services over the period of performance of the TO. Most notably, Phase 3 is intended to allow NWS to adapt the expected benefits of network virtualization and software control to its mission, including greater network resilience and agility, lower prices, improved extensible integration (aka "bonding") with NWS partners, reduced operational risk, improved security profile, and decreased operational overhead costs.

Phase 1 Like-for-Like Transition	Phase 2 Network Optimization	Phase 3 Network Evolution
Move 2019-21 NOAA network services from the Networx contract to the new GSA EIS contract Continue to consolidate and use NWS NCO for ONENWSNet and N-Wave as the primary service providers within NOAA Continue to use NOAA GFE operating during transition and procured in 2015-2017 or earlier Identify and begin to execute TDM replacement strategy for analog and low speed circuits Complete migration from TDM to Ethernet in the Access Layer and incorporate automatic bandwidth adjustments as specified in the GSA EIS contract Identify specific areas for improvement as the contract move occurs - but avoid disruptive changes Develop Collaboration Services strategy towards enabling the Fully Integrated Field Infrastructures (standardization of collaboration services across all regions and NOAA line offices) Develop Applications' Performance Policies in support of the application-centric network	Implement intermediate network architecture that meets NOAA's mission Implement Bandwidth-On-Demand capabilities in the access and backbone layer if applicable Continue to improve network resiliency in the access layer and the backbone Take advantage of price/performance improvements in network services to decrease cost and improve service to NOAA Implement Cloud Hosting of weather products Implement Collaboration Services in support of IDSS Continue to execute TDM replacement strategy for analog and low speed circuits If an SDN/NFV enabled network is procured, implement application policies management Procure new platforms as required (Software, Hardware) Conduct SDN/NFV Security Risk Assessment for candidate services to introduce to NOAA networks. Implement routing of NOAA traffic based on a centralized control plane paradigm	Complete TDM replacement for broadcast (NWR), observation (ASOS), and all other systems Improve network resiliency with automation and virtualization Continue taking advantage of price/performance improvements in network services and systems Continue support for partner organizations Optimize hardware costs by taking advantage of virtualization of network and application systems

NWS Current Architecture
(from Section C.7.5 NWS of the NOAA EIS RFP)

The NWS network provides the infrastructure for Weather Forecast Offices (WFOs), Regional Headquarters (Pacific, Alaska, Central, Eastern, Western, Southern), various National Centers providing specialized collection, forecasting, and/or dissemination functions, connectivity to NOAA's supercomputer centers, access to NOAA's TIC portals for public Internet access, and access to radar and observation systems collecting data used to create dissemination products.

For NWS, Figure 6 depicts the topology of the NWS network as of 2018, serving the NWS operational components described in the following sections. This is the "as-is" state from which the Contractor will be expected to transition to the desired NWS network "to-be" state described in Section C.8.

The NWS network consists of (4) MPLS networks connected through gateways and peering points. These four MPLS networks support the WFOs, Regional Headquarters, Center facilities, supercomputer locations, radar systems, partner locations, and sensor sites. WFOs and River Forecast Centers (RFCs) are dispersed across both CONUS and OCONUS locations. The NWS network is built primarily on MPLS, plus some optical connectivity via Dark Fiber and OWS services.

The access layer, i.e., the attachment from sites to the MPLS clouds, is mostly Ethernet. Some of the sites are configured with physically redundant access depending on the criticality of their mission. The preferred method to achieve resiliency in the access is dual entrances at each NWS location, with fiber diversity from the NWS location to diverse points of presence (PoPs) on the provider MPLS network. Details on Access requirements are included in Section C.25 of this SOW. The WFO/RFC access arrangements are at 1 Gbps, and transport provided by Layer 3 VPNs is provisioned as NBIP-VPNS ports at 100, 200 or 300 Mbps. The Regional Headquarters in CONUS and OCONUS use Ethernet access arrangements at 10 Gbps connecting to the MPLS clouds with 2 Gbps NBIP-VPNS ports.

Access to and from the public internet is via two Trusted Internet Connection (TICAP) portals operated by the Department of Commerce. The TICAPS are connected to the College Park and Boulder IDP locations as shown in the figure below.

NWS 2018 Architecture
Planned Network Connectivity
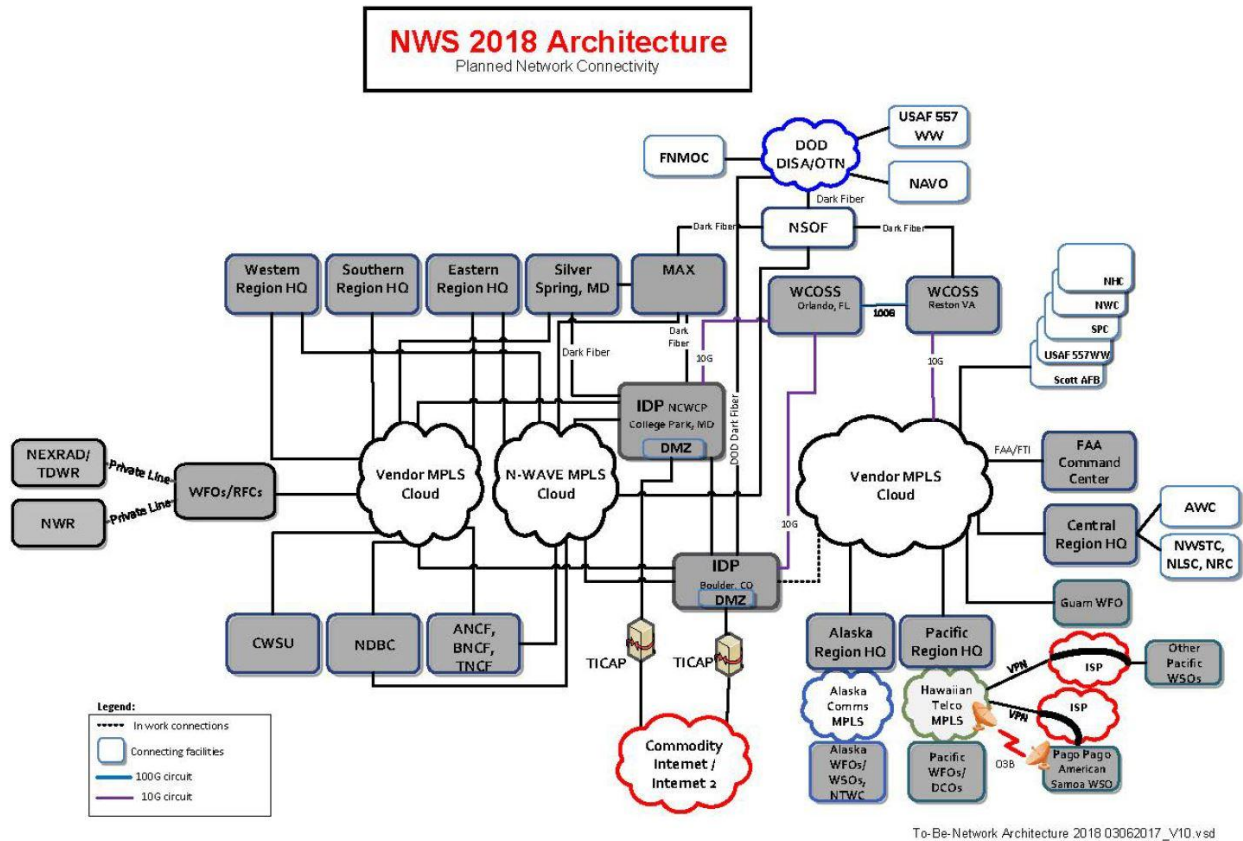
NWS operates a consolidated network operations organization, OneNWSNet, responsible for all configuration, surveillance, maintenance, and repair of the NWS network. The consolidation of NWS management and operations will continue with a reduction in the number of service providers under EIS.

The contractor shall gather information and review the agency's current services, systems and associated equipment that will be transitioned or impacted with the NWS's EIS transition. As requested by the agency's PM, the contractor shall work with GSA and the agency's service providers to ensure that the awarded EIS solution meets the agency's solicitation goals. At the end of the technical assessment and inventory analysis, the Contractor shall develop and submit to the agency's EIS transition team and GSA an assessment of the technical direction of the awarded EIS transition, and any architectural concerns that may require focused attention as the transition continues. The deliverables listed below are for the capturing of these specifics within the subtasks they are listed. Oversights and gaps in the agency transition strategy shall also be identified and reported by the contractor.

During the completion of the tasks, should the work products or stakeholder interactions not yield expert level results; the GSA COR and PM reserve the right to request a replacement resource. During the resource replacement, invoicing for the position or task either as a whole or the resources percentage of the overall task will cease until the position is filled, cleared, and on-boarded with an acceptable replacement. This provision applies to all contractors under this order.

Deliverables:
- Project Engineering Verification & Analysis Documentation
- Service Catalogue Mapping of current NWS services to awarded EIS services
- Agency Transition Enterprise Architecture Verification & Analysis Documentation
- Enterprise Network Transition Support

The deliverable schedule is described in the table below; note that all days are business days unless otherwise specified. The COR will receive, review, and approve all deliverables unless otherwise specified. Other deliverables that are considered within the scope of Section 1.2.1 may also be requested.

The task order will be issued as a Labor Hours task order. In the pricing template, the Government has offered their estimate as to the total number of hours and the labor categories required to complete the deliverables in the PWS. The Government welcome's the contractor's approach to their level of effort needed to complete the deliverables in steps over the course of the twelve-month period of performance.

Task Area	Deliverable Description	Due Date	Method of Delivery
1.2.1.1 TASK 1 - Enterprise Telecommunications Architecture Verification & Analysis	Project Engineering Verification & Analysis Documentation	Final due 90 days after the period of performance starts	Electronic submission compatible with Microsoft Office applications
1.2.1.1 TASK 1 - Enterprise Telecommunications Architecture Verification & Analysis	Service Catalogue Mapping of current NWS services to awarded EIS services	Final due 120 days after the period of performance starts	Electronic submission compatible with Microsoft Office applications
1.2.1.1 TASK 1 - Enterprise Telecommunications Architecture Verification & Analysis	Agency Transition Enterprise Architecture Verification & Analysis Documentation	Final due no later than 60 days before the end of the period of performance	Electronic submission compatible with Microsoft Office applications
1.2.1.1 TASK 1 - Enterprise Telecommunications Architecture Verification & Analysis	NWS Circuit Turn-Up Process and Procedures Documentation	Final due 180 days after the period of performance starts, and shall be updated as required by the PWS	Electronic submission compatible with Microsoft Office applications
1.2.1.2 TASK 2 - Enterprise Network Transition Support	Enterprise Network Transition Support	All invoicing completed before the end of the period of performance	Labor Hours Technical Support,

1.2.1.1 TASK 1 - Enterprise Telecommunications Architecture Verification & Analysis

The NWS team require high level network architects and engineers to review their current WAN configurations, review their current circuit inventory, develop the design for the EIS WAN transition, develop a documented and repeatable circuit turn-up process, interface with the current providers (Lumen & Verizon) and the incoming EIS provider (AT&T) to solidify the redesign and transition plan within the period of performance.

To support Enterprise Architecture Verification & Analysis for the NWS during their transition to EIS, the contractor shall:

- Review the NWS's telecommunications infrastructure to obtain a deep understanding of the current functionality and their inventory.
- Collaborate with the NWS to review the awarded EIS solution against the agency requirements to ensure the transitional architecture changes are well understood by the assigned TEA contractor(s).
- Review the portions of the National Oceanic and Atmospheric Administration (NOAA) EIS RFP and AT&T's awarded proposal that apply to NWS' services. Document any areas of concern with

regards to the proposed transition period to include, but not limited to, any areas that may have been missed between the RFP/RFQ and quote and any areas where proposed modernization (i.e., TDM to Ethernet circuits, SD-WAN, etc.) could occur sooner with limited impact to the accepted agency transition plan.

- Conduct system architecture and configuration reviews as new, changed, improved, or modernized versions of EIS services are provided by the awarded EIS contractors.
- Provide a Cisco Certified Internetwork Expert or equivalent to verify and analyze existing network architecture and configurations as well as redesign and implement a new network solution that supports the NWS's long-haul telecommunications, Wide Area Network (WAN), Local Area Network (LAN), connectivity to NOAA and other business partners, etc.
  - The NWS WAN Customer Edge is primarily leveraging Cisco routers and equipment. There are some instances where Juniper routers and firewalls are leveraged within the NWS WAN.
- Support the modernization of the NWS's Trusted Internet Connections and National Cybersecurity Protection System to Improve Protections, Remove Barriers, and Enable Commercial Cloud Migration.
- Review, document and offer areas within the agency infrastructure that may be updated or modernized as proposed by the awarded EIS contractor.
- Review and propose optimization of the current and proposed network configurations while right sizing network bandwidth for the various agency locations, business partners, their Managed Trusted Internet Protocol Service/Trusted Internet Connections, and the integration to cloud hosting providers to the network infrastructure where required by the agency solicitation.
- Ensure that the network solution complies with federal, NOAA, and NWS requirements to include, but not limited, to baseline secure configuration, network security hardening, network security monitoring, network encryption, redundant connections, optimized network configuration, right sizing network bandwidth, Managed Trusted Internet Protocol Service/Trusted Internet Connections, and integration of cloud hosting providers to the network infrastructure where required.
- Directly aid the NWS EIS transition team in the creation of the NWS specific EIS transition plan. AT&T is creating the larger NOAA EIS transition plan. Coordination with NOAA, NWS and AT&T is needed to complete the architecture reviews and to inform the NWS EIS transition plan while ensuring the NWS transition objectives and priorities are met. Provide recommendations and update, as necessary, the NWS's EIS transition plan to include, but not limited to, network redesign to move from separate Lumen & Verizon WANs to a single AT&T WAN, the management of network bandwidth, Quality of Service (QoS), tracking of decommission activities, opportunities for modernization, and evaluate new services/capabilities.
- Review any proposed EIS service and system designs to ensure they are properly configured to the NWS's technical and network security requirements.
- Review business processes and provide recommendations on what is needed for seamless integration between each of the NWS service providers.
- Provide subject matter expertise to help ensure the AT&T's network solution for NWS complies with Federal Information Security Modernization Act of 2014 and all other federal security requirements.
- Review all Baseline Change Requests (BCRs) related to the EIS transition, or other system changes, enhancements, or modernizations to ensure the proposed EIS products and services meet the NWS enterprise technology standards.
- Provide the NWS with support on architecture planning and implementation initiatives of their awarded EIS solution.
- Support the documentation and analysis of the telecommunications inventory and provide detailed industry standard best practice architecture guidelines to improve both business and technology processes and applications in the interest of integration and cost containment.
- Provide support in the identification and recommendation of how the awarded EIS services are delivered, what technologies should be used to deliver them, and how the infrastructure should be designed, deployed, and integrated in the most effective and flexible way.
- Provide support in assessing performance of the enterprise telecommunications infrastructure.

- Support system architecture and configuration reviews that may be necessary because of new, changed, improved, or modernized versions of NWS systems. This includes full network, system releases, partial releases, or patch and test of software modules.
- Through collaboration and review of the awarded EIS solution set, identify any construction required to deliver the services and identify the timelines that may be required to deliver.
- Ensure that the network solution complies with Federal and NWS requirements to include, but not all inclusive, baseline secure configuration, network security hardening, network security monitoring, network encryption, redundant connections to all agency sites where required by the NWS.

Deliverable: Project Engineering Verification & Analysis Documentation
- Initial review of the NOAA/NWS EIS solicitation and the awarded EIS services to AT&T, noting deltas with what was requested by NOAA/NWS and what was proposed by AT&T for the NWS EIS services.
- A review of the current NOAA and/or AT&T transition plans, noting any risks
- Contributions, recommendations, and updates to the NWS EIS Transition Plan incorporating the requirements in TASK 1
- An initial review for modernization opportunities and suggestions

Deliverable: Service Catalogue Mapping of current NWS data services to awarded EIS services
- A mapping of current NWS data services inventory to proposed EIS services
- The mapping and catalogue produced will provide insight to future transition planning, circuit transition priorities, legacy service disconnects, and aid additional deliverables in this task order

Deliverable: Agency Transition Enterprise Architecture Verification & Analysis Documentation
- The goals of this deliverable are to complete and document a thorough expert level architecture verification and analysis of all services transitioning from legacy NWS contracts to the awarded EIS task orders. The NWS WAN redesign shall be documented in this deliverable as well.
- Specific focus will be on transitioning from the legacy GSA ETS contracts to EIS, and ensuring the legacy inventory is understood and tracked for disconnections/terminations as services are transitioned.
- The review, analysis and recommendations shall be completed through NWS and AT&T transition team collaborations which will inform the final deliverable document.
- The requirements in this task shall be addressed within this deliverable, with the previous two deliverables in this task supporting the final product.

Deliverable: NWS Circuit Turn-Up Process and Procedures Documentation
- Create a circuit turn-up processes and procedures document.
- The stakeholders, communications planning, preparation checklist, repeatable configuration templates, routing considerations, testing steps, and other industry best practices for circuit turn-up processes shall be included.
- The document shall contain repeatable documented processes and procedures specific to the NWS environment.

1.2.1.2 TASK 2 - Enterprise Network Transition Support

NWS requires additional expert level Network Engineering resources to provide direct hands-on support for their EIS transition, WAN redesign, and circuit turn-up process. The NWS team requires experienced network engineers to lead, coordinate, and complete the circuit turn-up process and routing/redesign changes to support their EIS transition. Extensive knowledge of and experience with Border Gateway Protocol (BGP) and other external and internal routing protocols is required of the contractors leading and supporting this task. This task requires direct communication and coordination with the current service providers (Verizon and Lumen) and incoming EIS service provider (AT&T) to ensure the turn up of the

incoming EIS circuits and services are implemented and that the legacy services are decommissioned. The deliverables and plans created in TASK 1 will serve as the guidance and procedures for this task.

The number of supported circuit turn-up activities during the 12-month period of performance will depend on coordination and readiness with the many stakeholders involved. While the exact number or percentage of total NWS circuit turn-ups that shall be supported during the period of performance is unknown, the circuit turn-up procedure created in TASK 1 shall inform the process to prioritize, coordinate, complete the turn-up, and test each transitioned circuit. The circuit turn-up procedure created in TASK 1 shall inform the process to coordinate, complete the turn-up, and test each transitioned circuit. During this task if adjustments to the circuit turn-up procedure deliverable are required to maintain repeatable accuracy of the documented processes they shall be made by the contractor.

To support Enterprise Network Transition Support for the NWS, the contractor shall:

- Provide a Cisco Certified Internetwork Expert or equivalent to verify and analyze existing network architecture and configurations as well as redesign and implement a new network solution that supports the NWS's Wide Area Network (WAN) transition.
    - The NWS WAN Customer Edge is primarily leveraging Cisco routers and equipment. There are some instances where Juniper routers and firewalls are leveraged within the NWS WAN.
- Lead the planning and coordination of the circuit turn-up efforts between the various parties. NWS currently has service from Lumen and Verizon. Their EIS services shall be provided by AT&T through the National Oceanic and Atmospheric Administration (NOAA) EIS award.
- Coordinate directly with the NWS team on the circuit priorities. NWS has several large, expensive circuits that they will look to transition first. Ensuring that a best practice, repeatable design is implemented and that the changes limit or eliminate disruption will be extremely important to maintain NWS services during this transition.
- Ensure that the NWS network monitoring tools are in place and configured correctly. Coordination with NWS and AT&T will be required to ensure services are monitored and that false positives are reduced. Coordination with the NWS team is also needed to remove monitoring from the decommissioned legacy services.
- Ensure that the network solution complies with Federal, NOAA, and NWS requirements to include, but not limited to, baseline secure configuration, network security hardening, network security monitoring, network encryption, redundant connections, optimized network configuration, right sizing network bandwidth, Managed Trusted Internet Protocol Service/Trusted Internet Connections, and integration cloud hosting providers to the network infrastructure.
- Provide recommendations and update, as necessary, the NWS's EIS transition plan to include, but not limited to, the management of network bandwidth, Quality of Service (QoS), and evaluate new services/capabilities such as implementing TIC 3.0 solutions where relevant to support their ongoing modernization and move to SD-WAN.
- Review any new systems designs to ensure they are properly configured to the network.
- Review business processes and provide recommendations on what is needed for seamless integration between each of the NWS service providers.
- Provide subject matter expertise to help ensure the NWS complies with Federal Information Security Modernization Act of 2014 and all other federal security requirements.

Deliverable: Enterprise Network Transition Support
- Labor Hours will be recorded during this task to coordinate and lead the circuit turn-up and network redesign efforts on behalf of the NWS team. The number of circuit turn up activities that will occur during the 12-month period of performance are unknown.
- Connectivity improvements and modernization opportunities shall be advised
- The review, analysis and recommendations shall be completed through NWS and AT&T transition team collaborations which will inform any needed updates to the deliverable documents created in TASK 1.
- All requirements in this task shall be addressed in the deliverable

1.3 KEY PERSONNEL (KP)

There will be two Key Personnel designated for this order.
- TASK 1 Technical Lead
- TASK 2 Technical Lead

The contractor shall provide individuals qualified to perform the work as defined in the TO. Resumes for KP must match the skills and expertise needed. Candidates will have a mixture of business and telecommunications technical knowledge and expertise.

Key Personnel (KP) are those personnel considered essential to Contractor's performance. Three (3) of the personnel proposed are considered KP. The Contractor shall appoint one (1) person to be the Task Order Technical Lead under each Task, and that person will be the Government's point of contact during performance of this task order. This task order does not include personal services; therefore, all tasks shall be coordinated through the Task Order Technical Lead.

Personnel resumes proposed as Key Personnel for this TO must be reviewed by the COR and CO to certify that the labor category requirements are met (initially) and the qualifications exceed the current position (ongoing-see below).

Key personnel are designated Key because they are deemed crucial to the mission and overall success of the program. Key personnel substitutions are therefore scrutinized with higher rigor than perhaps, non-key personnel on a contract. Replacement of Key personnel can be disruptive and interfere with the government's ability to accomplish the efforts in a timely manner. The potential impacts of a Key personnel replacement can sideline the mission and impact the goals of the affected Program office for a substantial amount of time. The contractor shall not remove or replace any personnel designated as key personnel for this Task Order, without the written concurrence of the CO. Prior to utilizing other than personnel specified in proposals in response to a RFQ, the contractor shall notify the appropriate COR. This notification shall be no later than fifteen (15) calendar days in advance of any proposed substitution, and shall include justification, including resume(s) and labor category of each proposed substitution(s) in sufficient detail to permit evaluation of the impact on Task Order performance (What are the circumstances surround the individual's departure, give a reason why you believe it is in the government's best interest to accept such a change, and how can the government expect to maintain continuity in the efforts that are ongoing at present, considering the retraining and re-familiarization with our organization and assigned tasks that inevitably has to happen with the introduction of any new individual). Keep in mind that if the CO and GSA/FAS/ITS COR determine that the proposed substitute personnel is unacceptable, or that the reduction of effort would be so substantial as to impair the successful performance of the work under the task order, the contractor may be subject to default action as prescribed by FAR 52.212-4 Alt I.

Key Personnel substitutions should be accompanied by convincing assurances that the contractor has proposed a replacement individual whose qualifications meet or exceed those of the previous individual in that labor category and position. They are not compared with the original contract requirements.

1.3.1 LABOR CATEGORIES AND RESPONSIBILITIES

The contractor shall provide expert level qualified personnel with the required experience, certifications, and education levels necessary to fill the following four GSA STARS II or contract-equivalent labor categories to meet the technical requirements in the PWS:

IT Subject Matter Specialist: (TASK 1 Technical Lead, TASK 2 Contributor)
Provides extremely high-level subject matter proficiency for work described in the task. Provides advanced technical knowledge and analysis of highly specialized applications and operational

environments, high-level functional systems analysis, design, integration, documentation, training, and implementation advice on complex problems that require doctorate level knowledge of the subject matter for effective implementation.

Engineering Subject Matter Specialist: (TASK 1 Contributor, TASK 2 Technical Lead)
Provides technical knowledge and analysis of highly specialized applications and operational environments, high-level functional systems analysis, design, integration, documentation, and implementation advice on exceptionally complex problems that necessitate high-level knowledge of the subject matter for effective implementation. Participates as needed in all phases of software development with emphasis on the planning, analysis, modeling, simulation, testing, integration, documentation, and presentation phases.

Telecommunications/Communications Integration Engineer (x2): (TASK 1 Contributors, TASK 2 Contributors)
Provides technical direction and analysis for telecommunication activities, including planning, designing, integrating, installing, and maintaining large-scale telecommunications/communications networks and services with computer systems. Applies telecommunications/communications engineering principles and theory to propose design and configuration alternatives. Analyzes network performance, usage and traffic flows, accesses and interfaces, transmission techniques, and protocols to interface with computer systems.

Technical Writer: (TASK 1 Contributor, TASK 2 Contributor)
Writes a variety of technical articles, reports, brochures, and/or manuals for documentation for a wide range of uses. Coordinates the display of graphics and the production of the document.

2. SUPPLIES OR SERVICES

2.1   GENERAL

The contractor shall perform the effort required by this Request for Quotation (RFQ) on a Labor Hour task order for Transition Engineering Assistance (TEA) directly to the National Weather Service on behalf of the GSA Office of Information Technology Category (ITC). The work shall be performed in accordance with the terms and conditions of the contractors GSA 8(a) STARS II award, this RFQ, and the resulting task order.

2.2   TRAVEL

No travel is required to meet the requirements within the PWS. All work performed is to be remote. No travel funding is being provided.

3. INSPECTION AND ACCEPTANCE

3.1   PLACE OF INSPECTION AND ACCEPTANCE

Inspection and acceptance of all work performance, reports, and other deliverables under this TO will be performed under supervision of the COR and shall be accomplished remotely and in accordance with the terms of the TO award.

3.2   SCOPE OF INSPECTION

All deliverables will be inspected for content, completeness, accuracy, and conformance to the order requirements by the COR. The COR will consult with GSA and NWS subject matter experts during their review of the deliverables.

The government requires a period not to exceed fifteen business days after receipt of final deliverable items for inspection and acceptance or rejection.

3.3   BASIS OF ACCEPTANCE

The basis for acceptance shall be compliance with the requirements set forth in the TO, the contractor's quote and other terms and conditions of the STARS II GWAC. Deliverable items rejected shall be corrected in accordance with the applicable clauses.

Reports, documents, and narrative type deliverables will be accepted when all discrepancies, errors or other deficiencies identified in writing by the government have been corrected.

3.4   WRITTEN ACCEPTANCE/REJECTION BY THE GOVERNMENT

The government will provide written notification of acceptance or rejection of all final deliverables within fifteen business days. All notifications of rejection will be accompanied with an explanation of the specific deficiencies causing the rejection.

3.5   NON-CONFORMING PRODUCTS OR SERVICES

Non-conforming products or services will be rejected. Deficiencies shall be corrected, by the contractor, within three workdays of the rejection notice at no additional cost to the government. If the deficiencies cannot be corrected within three workdays, the contractor shall immediately notify the COR of the reason for the delay and provide a proposed corrective action plan within one workday.

4. DELIVERIES OR PERFORMANCE

4.1   PERIOD OF PERFORMANCE

The period of performance of the order will be from June 1, 2021 through May 31, 2022 for one twelve-month period. GSA STARS II ends on June 30, 2022 and all work would be required to be completed prior, but not past this date. Should the date of this award not allow for a full twelve-month period of performance prior to the end of the GSA STARS II contract, the period for this award would be less than twelve months.

Contractor support shall be conducted during normal business hours, which are 8:00 AM through 5:00 PM (EST/EDT), Monday through Friday.

4.2 PLACE OF PERFORMANCE

The contractor's duty station under this TO shall be offsite at the contractor's home office or telework locations according to the contractor's corporate practices. Remote access from home office locations through NWS provided GFE shall be the duty station. No onsite interaction with government employees at the NWS and GSA offices is required.

4.3   PLACE OF DELIVERY

Documents not provided electronically shall be provided to GSA and the NWS addresses within the Washington, DC metro area. Addresses shall be provided by the GSA COR as needed should there be a requirement for any deliverable(s) that cannot be delivered electronically.